

# Research on the Integration Model of "Post-Course-Competition-Certificate" for the Cruise Steward Major in Vocational Colleges from the Perspective of Industry-Education Integration: Based on the Talent Demand of Hainan's Cruise Industry Chain

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**Abstract:** The structural mismatch between talent cultivation for the cruise steward major and the job demands of the industry chain has become a key issue constraining the quality of program development in vocational colleges. This study takes the talent demand of Hainan's cruise industry chain as a starting point and constructs an integration model of "Post-Course-Competition-Certificate" for the cruise steward major in vocational colleges. First, based on the vocational qualification framework, a hierarchical competency model for job positions is established, the mapping relationship between course modules and vocational skills competitions is analyzed, and the equivalent exchange conditions between academic certificates and vocational level certificates are clarified. Second, the skill gap gradient along the vertical links of Hainan's cruise industry chain is identified, dynamic calibration rules between job standards and teaching standards are designed, and the screening threshold for transforming competition content into course content is set. Finally, a curriculum cluster restructuring plan based on job operation processes is proposed, the overlap between certificate assessment and course completion standards is optimized, and a credit mutual recognition weight allocation scheme for competition results and certificate acquisition is formulated. The research shows that the integration model of "Post-Course-Competition-Certificate" can achieve systematic integration of competency standards, teaching content, and evaluation mechanisms, and provide an operable structured pathway for talent cultivation in the cruise steward major at vocational colleges.

**Keywords:** Cruise Steward Major, Integration of Post-Course-Competition-Certificate, Hierarchical Competency Model, Skill Gap, Credit Mutual Recognition.

## Introduction

The high-quality development of the cruise industry has imposed comprehensive competency requirements on cruise steward talents, while the traditional training model in vocational colleges lags significantly in terms of job adaptability, skill update speed, and certificate acquisition efficiency. As a cluster region for the cruise industry chain, Hainan features tropical route characteristics and an inter-island operational environment that create differentiated demands on stewards in cross-cultural service, emergency response, and multilingual communication abilities, thereby highlighting the necessity of deep alignment between program development and the talent demand of the industry chain. The research significance of constructing the integration model of "Post-Course-Competition-Certificate" lies in analyzing the intrinsic relationships among job competency elements, course content structures, competition task features, and certificate assessment standards, so as to form an embedded integration mechanism among these four elements, thereby enhancing the precision and dynamic responsiveness of talent cultivation. This study focuses on the structured design of the integration model, avoiding abstract theoretical elaboration, and directly conducts a systematic analysis from three dimensions: competency architecture, adaptation mechanisms, and pathway design, with the aim of providing a theoretical basis for curriculum reform and evaluation system optimization in the cruise steward major at vocational colleges.

## **1. Competency Architecture and Integration Element Analysis for the Cruise Steward Major**

### ***1.1 Hierarchical Competency Model for Cruise Steward Positions Based on the Vocational Qualification Framework***

The hierarchical competency model for cruise steward positions must take the vocational qualification framework as its benchmark and vertically divide job tasks into the operational level, the supervisory level, and the strategic level. The operational level corresponds to basic positions such as cabin service, food and beverage service, and recreational activity guidance, with emphasis on standardized service procedures and emergency response skills. The supervisory level involves departmental coordination, passenger complaint handling, and small-team management, requiring cross-cultural communication and resource allocation capabilities. The strategic level focuses on cruise operation performance optimization and service quality improvement, necessitating data analysis and decision-making abilities. Competency elements at each level must be broken down into observable and quantifiable behavioral indicators, forming a progressive competency spectrum from elementary to advanced levels<sup>[1]</sup>.

Based on the actual needs of Hainan's cruise industry chain, this hierarchical model must incorporate the regionally specific tourism product mix and maritime safety environment. For example, with regard to cruise products on the Xisha route and Southeast Asia routes, stewards need to master the passenger source characteristics of island tourism, the emergency response procedures for tropical route incidents, and multilingual service techniques. Competency hierarchy is not linearly fixed but allows inter-level transitions through skill accumulation, and outstanding practitioners in lower-level positions can, with specialized skills such as cruise revenue management or advanced lifesaving certifications, cross over to handle more complex tasks at higher levels. This model provides parametric references for subsequent curriculum design and certificate alignment, ensuring that the competency structure is mapped onto teaching units.

### ***1.2 Mapping Relationship between Course Modules and Vocational Skills Competitions for the Cruise Steward Major in Vocational Colleges***

The course modules for the cruise steward major are generally divided into basic professional modules (Introduction to Cruises, Tourism Psychology), core skills modules (Cabin Service Practice, Banquet Design, Maritime English), and extension modules (Cruise Marketing, Cross-Cultural Management). The design of competition items in vocational skills competitions focuses on service process restoration, crisis scenario simulation, and impromptu English conversation, among other directions, and these competition items share overlapping content with the course modules but differ significantly in organizational form. Course modules emphasize the completeness and logical sequence of the knowledge system, whereas competition items prioritize speed, accuracy, and adaptability under specific task scenarios; the former provides the knowledge source for the latter, and the latter feeds back to enhance the density of operational training for the former.

The key operational point in constructing a two-way mapping matrix between course modules and competition items lies in identifying the degree of consistency between the skill nodes in course units and the assessment points in competitions. For example, the "banquet table setting standards" in the core skills module and the "themed table design and table-setting timing" in competitions share a high mapping relationship, allowing the direct integration of competition scoring criteria into the course practical training evaluation system. In contrast, the "cruise revenue management" in the extension module is rarely covered in existing competitions, and thus miniaturized on-campus skill challenge competitions need to be developed to fill this gap. Through the clarification of such mapping relationships, course content can maintain a stable knowledge framework while extracting high-frequency skill requirements from competitions as a basis for updating key teaching priorities<sup>[2]</sup>.

### ***1.3 Equivalent Exchange Conditions between Academic Certificates and Vocational Level Certificates***

Academic certificates represent the attainment of systematic disciplinary knowledge and general competencies, whereas vocational level certificates emphasize operational proficiency and standardization for specific positions. The equivalent exchange between the two in the cruise steward major needs to be established on the basis of competency unit matching, meaning that a module in the academic curriculum (such as "Maritime Passenger First Aid"), after verification of its credit hours and

assessment methods, can equivalently substitute the training hour requirements of the corresponding level certificate. The core parameters of the exchange conditions include the statistical consistency between the course assessment pass rate and the certificate examination pass rate, the percentage threshold of course content coverage over the certificate syllabus, and the technical homology between practical training equipment and certificate assessment equipment.

In the context of Hainan's cruise industry chain, the exchange between academic certificates and vocational level certificates should also take into account the skill recognition preferences of regional employers. Some cruise enterprises place greater value on the Basic Safety Training Certificate recognized by the Maritime Safety Administration rather than on academic course grades; therefore, the equivalent exchange needs to distinguish between two types: "full substitution" and "partial substitution". Full substitution applies to modules where the overlap between course content and certificate assessment content reaches over 85% and both assessment methods are practical evaluations; partial substitution allows certain competency units within the certificate to replace the corresponding sections in the academic course, while retaining the remaining parts of the course for independent assessment. Establishing a substitution catalog and updating it regularly can reduce students' duplicated training time while maintaining the quality standards of both certificate types without dilution.

## **2. Characteristics of Talent Demand in Hainan's Cruise Industry Chain and the Adaptation Mechanism for Integration**

### ***2.1 Gradient Analysis of Skill Gaps along the Vertical Links of the Cruise Industry Chain***

The vertical links of the cruise industry chain can be divided into three levels: the upstream level of design, construction and material supply; the midstream level of route operation and fleet management; and the downstream level of port services and passenger reception. The skill gaps at different levels exhibit a gradient distribution pattern. The upstream level focuses on cruise engineering knowledge, supply chain integration capabilities, and marine equipment maintenance techniques, and this area is almost entirely absent from the current training programs for the cruise steward major in vocational colleges in Hainan. The midstream level tends to require route revenue management, application of maritime regulations, and multi-port dispatch coordination capabilities; currently, professional courses provide limited coverage of these areas, and more reliance is placed on on-the-job accumulation. The skill gaps in the downstream passenger reception level are concentrated on cross-cultural service capabilities, promotional techniques for cruise-specific products, and cabin handling procedures under public health emergencies<sup>[3]</sup>.

A comparison of the gap gradients across the three links reveals that the skill gaps in downstream passenger reception manifest as insufficient personnel numbers and high turnover at the operational level, whereas the gaps in the midstream and upstream levels manifest as a lack of talent types at the competency level. In Hainan's cruise industry chain, the downstream reception links such as Sanya Phoenix Island and Haikou Port are the most mature, but the talent demand for midstream and upstream links is accelerating along with the establishment of local cruise brands. The results of the skill gap gradient analysis indicate that a single integration model of "Post-Course-Competition-Certificate" that only targets traditional steward positions will fail to cover the new types of positions brought about by the vertical extension of the industry chain, and thus supplementary course modules such as supply chain management and cruise safety assessment need to be introduced to fill the gaps.

### ***2.2 Dynamic Calibration Rules between Job Standards and Teaching Standards in the Integration Model***

Job standards are usually formulated by cruise enterprises based on operation manuals, passenger complaint data, and safety regulations, emphasizing immediate execution efficiency and quantifiable service indicators. Teaching standards, on the other hand, are constructed on the basis of professional teaching standards and credit hour allocation principles, focusing on cognitive patterns and progressive competency development. The dynamic calibration between the two in the integration model requires the establishment of a periodic comparison mechanism, with a calibration cycle of half a year or one year, to transform key performance indicators in job standards (such as cabin cleanliness pass rate and English response time) into the benchmark achievement levels of teaching standards. The core of the calibration rules is to identify the core items in job standards that have transferable value, exclude

brand-specific operational details tied to particular cruise brands, and retain the general skill elements.

The seasonal peak and off-peak characteristics of cruise operations in Hainan Province provide practical conditions for dynamic calibration. During the peak season (winter and the periods around the Spring Festival), job standards in cruise enterprises show a significantly heightened requirement for rapid onboarding capability, and accordingly, teaching standards can incorporate a filing-based rapid certification module into the practical training courses for the same period, allowing students to use direct assessment against job standards as a substitute for some on-campus practical training hours. In the off-peak season, it is suitable to feed the competition training content accumulated in teaching standards back into the fine-tuning of job standards; for example, students' innovative solutions for special passenger services can be incorporated into enterprise job training manuals. The establishment of dynamic calibration rules ensures that job standards and teaching standards no longer follow a one-way compliance relationship but instead form a closed loop of two-way revision<sup>[4]</sup>.

### ***2.3 Setting of Screening Thresholds for the Transformation of Skills Competition Content into Course Teaching***

Skills competition content generally encompasses three dimensions: high-difficulty operational tasks, complex scenario cases, and time-limited stress tests. Directly introducing all of this content into course teaching would exceed the carrying capacity of regular teaching resources and would also easily cause teaching content to deviate from basic competency development. The setting of screening thresholds needs to be based on three discriminant indicators: the task recurrence rate indicator refers to the frequency with which competition tasks appear in daily job positions; content with a frequency higher than 60% is prioritized for inclusion in teaching. The resource adaptation rate indicator refers to the degree of match between the equipment required for competition content and the school's existing practical training equipment; content with an adaptation rate below 30% should be downgraded to elective or demonstration teaching. The cognitive prerequisite indicator refers to whether the competition task requires prerequisite course knowledge for support; if prerequisite courses are lacking, basic training modules need to be developed first.

For the cruise industry chain in Hainan, region-specific competition content (such as lifeboat rapid release operations on tropical island routes and impromptu bilingual tour guide commentary in Chinese and English) has a higher priority for transformation, as this content directly corresponds to the differentiated employment needs of local cruise enterprises. The screening thresholds also require the setting of a dynamic adjustment coefficient; for newly emerging competition items, an observation period of one semester can be established, during which only 30% of the content is selected as supplementary course exercises, and the threshold can then be raised to the normal standard after the job matching degree of such content has been confirmed by enterprises. Through the establishment of clear screening thresholds, skills competition content can be integrated into the course teaching system in an orderly and efficient manner, thereby avoiding excessive disruption to the curriculum structure caused by competition orientation.

## **3. Structured Pathway Design for the Integration Model of "Post-Course-Competition-Certificate"**

### ***3.1 Curriculum Cluster Restructuring Based on Job Operation Processes and Embedding of Competition Tasks***

Taking the typical job operation process of cruise steward positions (from embarkation reception, cabin service, food and beverage supply, to disembarkation passenger delivery) as the main chain, the original curriculum cluster organized according to disciplinary logic can be restructured into "process-driven" course modules. Each process node corresponds to a set of related courses; for example, the embarkation reception node integrates three course contents—"Cruise Service Etiquette", "Baggage Handling Procedures", and "Key Card Activation and Cabin Orientation"—thereby eliminating knowledge redundancy among traditional courses. The restructured curriculum cluster emphasizes skill continuity within the process, and upon completing a full operation process, students can acquire a holistic operational understanding of that segment rather than fragmented theoretical memorization<sup>[5]</sup>.

Competition tasks, when embedded into process nodes, need to select the sub-steps with the highest operational density or the highest error rate within the operation process as competition targets. In

Hainan's cruise industry chain, the embarkation temperature screening and health declaration process specific to tropical routes has a relatively high error rate, and this can be designed as a timed scenario-based competition task, requiring students to complete the verification and guidance of five groups of simulated passengers within one minute.

The embedding method adopts a "post-process-node competition unit" approach, meaning that after students complete the course learning and basic practical training for that node, they directly enter the simulated competition site for the corresponding competition task, and use the competition result as the threshold condition for passing that node. This design makes the competition no longer a separate activity independent of the courses, but rather a formative assessment tool integrated into the process nodes, while also endowing the competition results with a diagnostic function to identify students' skill weaknesses in specific operation segments, thereby providing a basis for subsequent personalized training.

### ***3.2 Optimization of the Overlap between Vocational Level Certificate Assessment Content and Course Completion Standards***

The assessment content of vocational level certificates generally includes theoretical computer-based examinations (service standards, maritime English vocabulary) and practical evaluations (emergency drills, Chinese and Western table setting). Course completion standards comprise elements such as class attendance, mid-term tests, and final comprehensive projects. The primary task of overlap optimization is to identify the fully overlapping parts between the two types of assessment. For example, the "cruise cabin inspection procedure" in the certificate and the "final practical examination of housekeeping service" in the course are highly consistent in operational steps and scoring rubrics, and thus they can be combined into a single assessment that simultaneously earns course scores and certificate module grades. For partially overlapping content (such as "lifeboat operation" in the certificate assessment and "Introduction to Ship Safety" in the course, where the latter covers only theory but not practice), practical training sessions need to be supplemented to increase the overlap. On this basis, overlap optimization can also introduce a cross-validation mechanism, meaning that the same competency item uses the same scenario case bank in both course assessment and certificate assessment, thereby enhancing the comparability and mutual recognition foundation between the two.

In the context of Hainan's cruise industry chain, some vocational level certificates (such as the Basic Safety Training Certificate issued by the Maritime Safety Administration) carry a mandatory legal threshold, and the initial overlap between their assessment content and course completion standards may be less than 40%. The optimization path can adopt a strategy of "front-loading certificate content", whereby the core competency indicators in the certificate syllabus are broken down into several teaching units, each embedded into the course chapters that are most closely related, while the corresponding weights in the course completion standards are adjusted accordingly. After one round of optimization, this process can raise the overlap to above 65%, enabling students to simultaneously meet the basic requirements for course completion and certificate acquisition without additional preparation, thereby reducing the time loss caused by duplicate assessments<sup>[6]</sup>.

### ***3.3 Credit Mutual Recognition Weight Allocation Scheme for Competition Results and Certificate Acquisition***

The key to converting competition results into credits lies in establishing a mapping table among competition levels, competition rankings, and credit weights. A first prize in an international-level cruise skills competition (such as the Restaurant Service category of the WorldSkills Competition) can be substituted for 3 credits of a core professional course; a second prize can be substituted for 2 credits. A first prize in a provincial-level cruise steward competition can be substituted for 2 credits of an elective professional course. A school-level competition can only be substituted for 1 credit of practical training or a class hour reduction. The same competition result shall not be reused for credit substitution in different courses, and a unique subject correspondence rule must be set to avoid excessive accumulation of credits.

For the region-specific competitions unique to Hainan's cruise industry chain (such as the Hainan Cruise Service Skills Invitational and the Sanya International Cruise Steward English Speaking Competition), the weight allocation needs to take into account the recognition of such events by local cruise enterprises. Students who rank among the top three in regional competitions can be granted

exemption from the practical operation modules in certificate acquisition, meaning that they are exempted from the corresponding practical assessment items of the vocational level certificate and can directly apply for the certification of that module based on their award certificates. The weight allocation scheme also needs to set a cap on credit substitution, with the total credits substituted through competitions for a single student not exceeding 15% of the total graduation credits, so as to ensure the primary status of systematic course learning. This allocation scheme is also accompanied by a dispute resolution mechanism: when the equivalence between competition content and certificate assessment content is questioned, the decision is made after a joint evaluation by the on-campus professional teaching committee and cruise enterprise representatives, with the basis for the decision including the degree of alignment between the competition scoring standards and the certificate assessment rubrics in terms of item correspondence, as well as the job performance tracking data of previous award-winning students.

## Conclusion

This study focuses on the integration model of "Post-Course-Competition-Certificate" for the cruise steward major in vocational colleges, and constructs a systematic theoretical framework from three dimensions: competency architecture, demand adaptation, and pathway design. Through the establishment of a hierarchical competency model for job positions, a mapping matrix between courses and competitions, and the equivalent exchange conditions between academic certificates and vocational level certificates, the fundamental elements of the integration model have been clarified. In response to the skill gap characteristics along the vertical links of Hainan's cruise industry chain, this study proposes dynamic calibration rules between job standards and teaching standards as well as screening thresholds for competition content, thereby enhancing the model's adaptability to regional industrial differences. At the structured pathway level, this study designs a process-driven curriculum cluster restructuring plan, an optimization strategy for assessment overlap, and a credit mutual recognition weight allocation scheme for competition results and certificate acquisition, forming an operational implementation framework for integration. Future research directions may include: first, exploring how the talent cultivation standards for the midstream and upstream links of the cruise industry chain (design and construction, route operation) can be embedded into the existing professional system; second, developing competency diagnostic tools based on job operation processes to achieve quantitative evaluation of integration effectiveness; and third, comparing the variant structures of the "Post-Course-Competition-Certificate" integration model under different regional cruise industry ecosystems, so as to test the external validity of this framework.

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